NOVEMBER/DECEMBER 2024

CEL43/BEL43 — DIGITAL ELECTRONICS

Time : Three hours Maximum : 75 marks

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SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Convert the decimal number 26_{10} to binary number.

2. Convert the decimal number 86_{10} to octal number.

3. Give the truth table of NOR gate?

4. What are universal logic gates?

5. What is CMOS logic?

6. What is a encoder?

7. What is a modulus counter?

8. Give the truth table of a D Flip-Flop.

9. What is meant by accuracy?

10. What is meant by resolution?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the BCD addition with suitable example.

Or

(b) Explain the gray codes with suitable example.

12. (a) Explain the AND with truth table.

Or

(b) Explain the simplification of Boolean expression by Karnaugh Map method with example.

13. (a) Explain basic adder and subtractor.

Or

(b) Discuss the TTL digital logic families.

14. (a) Explain the action of IC 555 as monostable multivibrator.

Or

(b) Explain the action RS flip flop.

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15. (a) Explain the action of variable resistor network DAC.

Or

(b) Explain the action of counting ADC.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the various error correction and detection codes.

17. Discuss the action of NAND as Universal logic gates.

18. Explain the action of multiplexers and demultiplexers.

19. Describe the action of JK maser – slave flipflop.

20. Elucidate the action of R-2R ladder type method of DAC.

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